

Application No. 10/628,305  
Docket No. K06-159567M/TBS

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AMENDMENTS TO THE ABSTRACT

Please amend the Abstract as follows:

~~Peeling occurring in a short period of time is avoided in a roller member such as a roller cam follower of a cam apparatus in a valve system of a car engine. The roller member is produced by heating an already processed a roller member material in a carburizing atmosphere of carbon potential being 1.2% or more at 840 to 870°C for 3 hours or longer, thereby to carry out a carburization treatment, followed by quenching, said roller member material being formed in a predetermined shape from a bearing steel. Thereby, all amount of carbon are rendered to be 1.0 to 1.6 wt% in a surface portion of a range from a surface of a rolling face until a depth where a maximum shearing stress acts on, an amount of solute carbon is rendered to be 0.6 to 1.0 wt% in a matrix of said surface portion, and said surface portion is precipitated with carbides of 5 to 20% in an area rate and of particle size being 3  $\mu$  or less.~~

A roller member comprising high carbon chromium bearing steel having a carburization treatment. The bearing steel comprising a surface portion defined as a range between a surface of a rolling face of the roller member to a depth where a maximum shearing stress acts thereon, the surface portion containing carbon in a total amount comprising a range of 1.0 to 1.6 wt% and an amount of residual austenite comprising a range of 20 vol% to 35 vol%, wherein a compression residual stress of the surface portion comprises a range of 150 to 1000 MPa, wherein a surface hardness of the surface portion comprises a range of 64 or higher in Rockwell C hardness, wherein an amount of carbide precipitate on the surface portion comprises a range of 10% to 25% in an area rate and each

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carbide particle size comprises a range of 3  $\mu$ m or less.